(No Model.)

J. H. LOVE.

PENCIL SHARPENER.

No. 598,427. Patented Feb. 1, 1898.

Fig. 3.

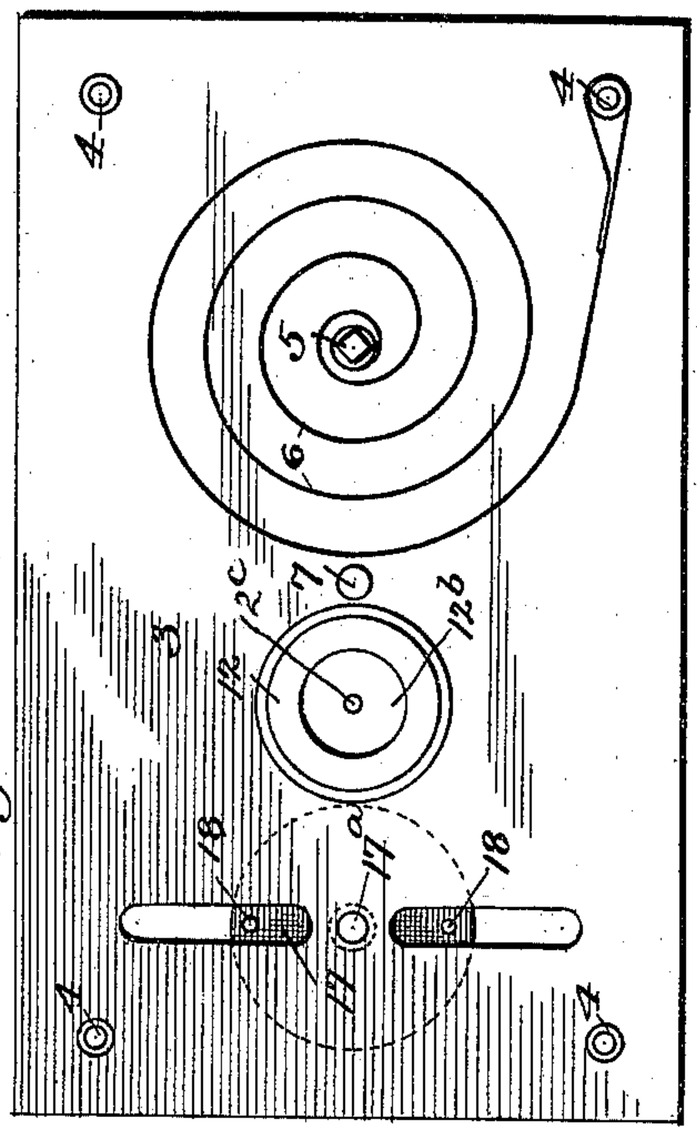


Fig. 2.

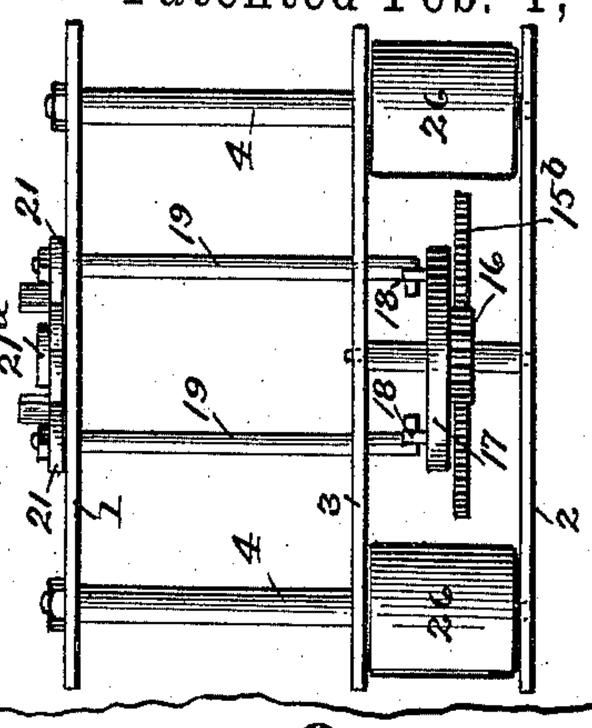


Fig. 5.

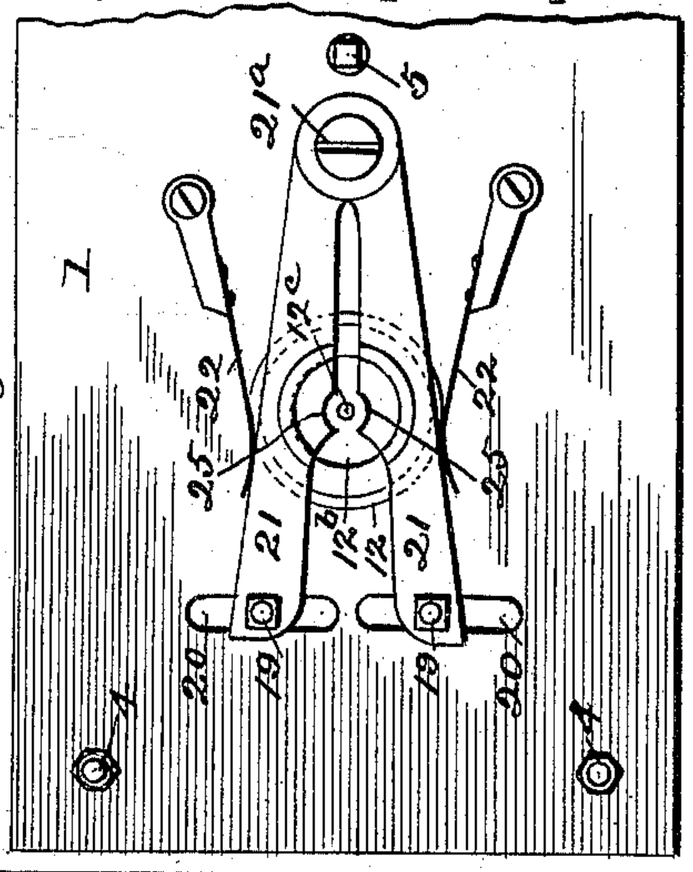


Fig. 1.

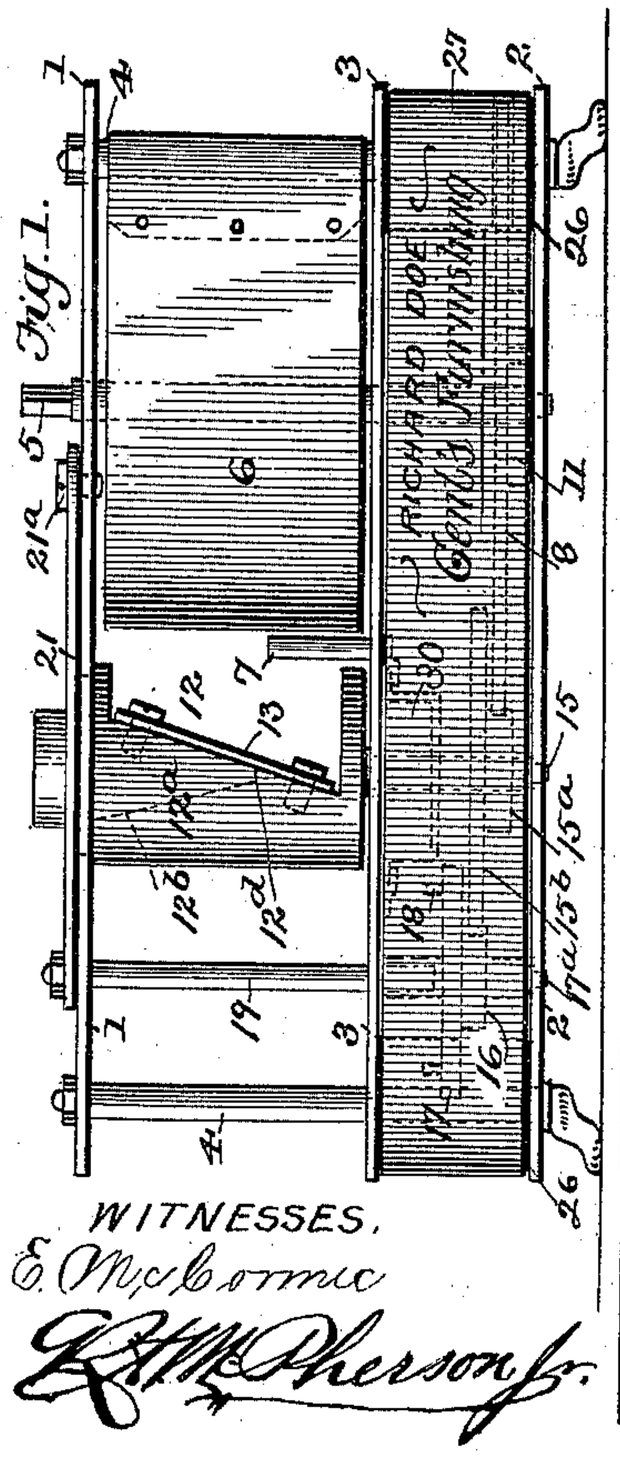


Fig. 4.

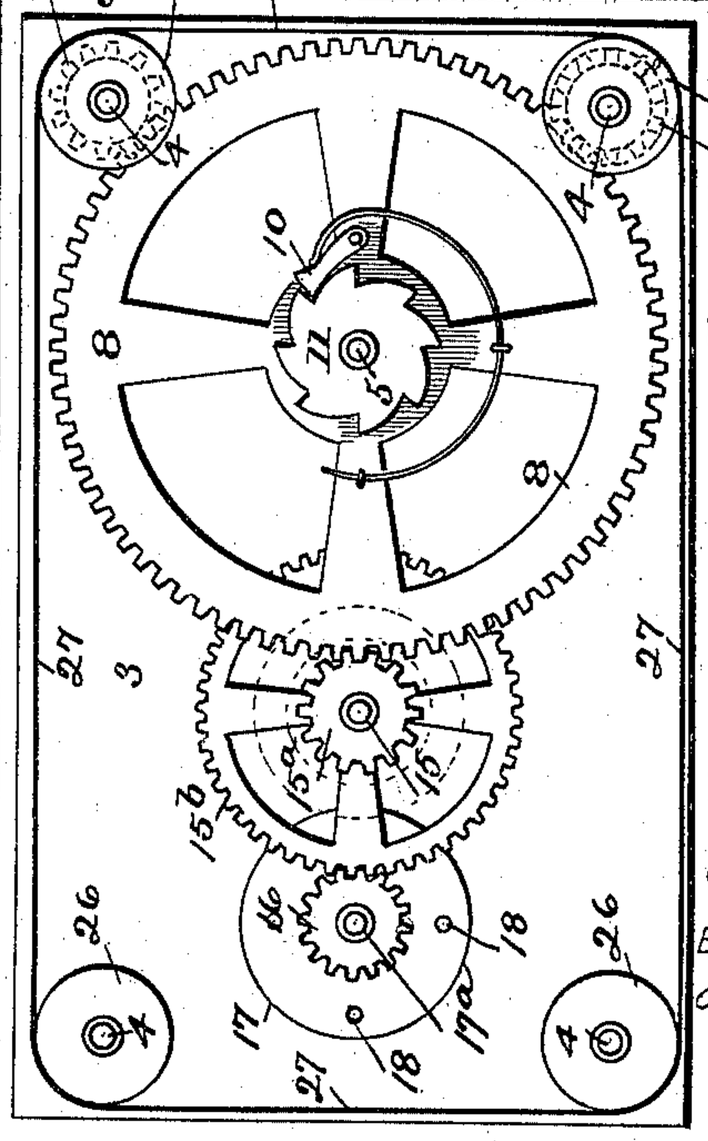


Fig. 7.

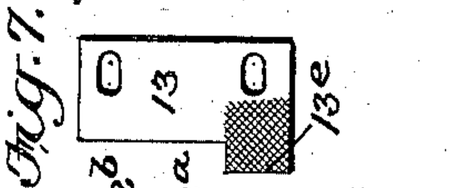
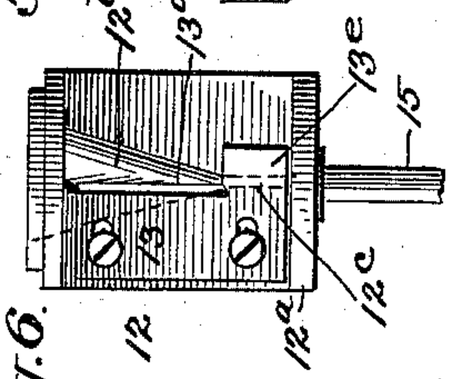


Fig. 6.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JAMES H. LOVE, OF MEADVILLE, PENNSYLVANIA.

PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 598,427, dated February 1, 1898.

Application filed August 6, 1897. Serial No. 647,350. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. LOVE, residing at Meadville, in the county of Crawford and State of Pennsylvania, have invented a new and Improved Pencil-Sharpener, of which the following is a specification.

This invention is in the nature of a spring-operated pencil-sharpener, and primarily has for its object to provide a device of this character adapted to be set in an operative condition as the pencil is inserted in position for use.

The invention also has for its object to provide a pencil-sharpening means having a spring mechanism for operating the same, so arranged and combined as to form a simple, economical, neat, and novel article for the purposes stated which can be sold at a small cost and serve as a useful desk ornament.

With these objects in view the invention consists in a combination device for the purposes stated embodying the peculiar combination and novel arrangement of parts, such as will be first described in detail, and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improvement. Fig. 2 is an end view of the same. Fig. 3 is a top plan view with the top plate removed. Fig. 4 is an inverted plan view with the bottom plate removed. Fig. 5 is a top view of the same, and Figs. 6 and 7 are detail views of the combined cutting and filing device.

Referring now to the accompanying drawings, in which like numerals indicate like parts in all the figures, 1 indicates the top plate, 2 the bottom plate, and 3 an intermediate plate, of a suitable bearing-frame, the four corner-posts 4 of which support the plates 1, 2, and 3 substantially in the manner shown in the drawings.

At one end of the frame is journaled a vertical drive-shaft 5, the upper end of which terminates in a key-receiving portion projected above the top plate, its lower end having a stepped bearing in the bottom plate. A power-spring 6 is held between the upper and intermediate plates, one end of which is connected to the power-shaft, while the other is joined to one of the corner-posts, as clearly shown in Fig. 3.

7 indicates a check-post projected up from the plate 3, which serves to limit the expansion of the spring 5 to hold it from engaging the cutter devices, presently referred to.

8 indicates the drive-wheel, loosely mounted on the drive-shaft and provided with a pawl 10, held to engage the ratchet-wheel 11, fixedly held on the shaft 5.

12 indicates the combined cutter and file devices, which comprise a hub or body portion 12^a, having a conical recess 12^b, the apex of which terminates in a downwardly-extending lead or point receiving slot 12^c. One side of the hub is cut away flush with the conical recess, as at 12^c, and is formed into an inclined seat, on which is secured adjustably a detachable blade 13, having a cutting edge 13^a of a length equal to that of the taper of the conical recess and an angle extension 13^e having a file-face which operates over the point-receiving opening of the hub 12^a. By arranging the cutter and file blade in the manner shown it is manifest that as the pencil end is forced into the hub 12 the same will be cut to a taper end and the lead enter the straight opening at the bottom to engage the file-face of the blade, which points the lead.

The upper end of the hub 12 has an annular reduced journal portion which seats in an opening in the top plate, while the lower end of the said hub has a pendent shaft 15, having a pinion 15^a, which meshes with the drive-wheel, it also having a pinion 15^b, which meshes with a pinion 16 on the escapement-disk shaft 17^a.

The escapement-disk 17 has a series of vertical stop-pins 18, with which rods 19 are held pendent on the front ends of the spring-actuated arms 21, which arms are pivotally joined at their rear end, as shown at 21^a in Fig. 5.

The arms 21, which are normally held closed inward by the springs 22, are disposed on the top plate 1, project over the upper end of the cutter-hub, and have concaved seats 25, disposed centrally over the said hub, which when the arms are closed in form an opening of a diameter less than that of an ordinary pencil.

The rods 19 pass down through transverse elongated slots 20 in the top plate, which slots are made sufficiently wide to allow for the free lateral movement thereof.

Rotary hubs 26 are secured on the corner-posts between the middle and bottom plates, the two adjacent the drive-wheels being provided with gears 26ª, which mesh with the main drive-gear, as clearly shown in Fig. 4, by reference to which it will also be seen that an endless band 27 passes over the corner-hubs.

The object of providing an endless band is twofold: First, it incases the gearing and keeps the same out of sight, and, secondly, it serves as an advertising medium, as advertising-calendars or other matter can be inscribed or secured on the outer face thereof, which when the device is operating to sharpen the pencil forms a traveling advertising-apron.

The lower ends of the corner-posts terminate in short feet to give the device a neat and ornamental appearance.

To collect the shavings and sharpenings, a small trough or drawer 30 (indicated in dotted lines in Fig. 1) is held under the cutter, suspended from the middle plate 3, such middle plate in practice having openings to admit of the discharge of the cuttings into such drawer.

In operation the pencil is pushed down between the arms 21, through the central opening, which spreads the arms and moves their pendent rods from engagement with the stops on the escapement-wheel and thereby sets the spring-operated cutter devices in operation, it being manifest that the endless advertising-band will during such operation move continuously.

While in practice I prefer to shape and arrange the several parts substantially as illustrated and described, yet the detailed arrangement of such parts may be modified without departing from my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device as described, the combination with the frame, the spring-operated mechanism and the rotary cutter devices operated by such mechanism, of detents for holding the operating mechanism inoperative, a pencil-guide held over the cutter devices, having stops to engage the detents, said guides comprising pivoted arms, adapted to spread apart as the pencil is pushed therebetween, whereby to release the detents, as specified.

2. In a device as described, the combination with the frame and the drive mechanism, of a rotary hub member geared with the drive mechanism, having a conical recess, an inclined cut-out portion at one side, and a straight or point-receiving opening forming a continuation of the conical recess, and a blade having a cutting edge projecting over one edge of the conical recess and a straight file portion projected over the point-opening, all being arranged substantially as shown and described.

3. An improved device for the purposes stated, comprising a main supporting-frame, a rotary hub having a conical pencil-receiving opening and a cutter-blade, a spring-operated drive-gearing for operating the cutter-hub, an escapement-wheel having stops, the pivoted arms located above the cutter-hub spring, held to their closed position, said arms having pendent rods to engage the escapement-stops, all being arranged substantially as shown and for the purposes described.

JAMES H. LOVE.

Witnesses:
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V. L. WOOD.